analysis with more advanced RT technique is needed to assess the future role of RT in orbital tumors.

EP-1476

General fatigue during the period of radiotherapy; clinical usefulness of Japanese herbal medicine.

N. Yoshikawa[1], H. Yoshioka[1], K. Yoshida[1], T. Shimbo[1], Y. Uesugi[1], Y. Narumi[1]
[1]*Osaka Medical College, Radiology, Takatsuki, Japan*

Purpose or Objective: Breast cancer patients receiving post-operative radiotherapy (RT) experience adverse effects and general fatigue is one of them. Although it is often not severe enough to interrupt the course of RT, it negatively affects quality of life. Some Japanese herbal medicines such as TJ-41 (Hochu-ekki-to) are effective for fatigue and are often used in daily practice. The purpose of this study is to assess radiation-induced fatigue (RIF) in detail and investigate the effect of Japanese herbal medicine.

Material and Methods: Breast cancer patients who received post-operative RT and agreed to answer a patient self-reporting questionnaire (FACIT-F; Functional Assessment of Chronic Illness Therapy) were eligible for this study. We excluded patients who were receiving chemotherapy concurrently. RIF was defined as fatigue which occurred during the period of radiotherapy and there were no causes for the fatigue other than the radiotherapy. The FACIT-F questionnaire was answered before RT, at one week after the beginning of RT, at the end of RT and one month after the end of RT. We prescribed TJ-41 to the RIF patients during the radiotherapy. We defined as responders the patients who experienced improvements in RIF and hoped for further prescription.

Results: Fifty-two patients were enrolled for this study. RIF was observed in 24 (46 %) patients. On univariate analysis, the statistically significant predictor of RIF was the score of FACIT-F before RT. TJ-41 was administered to 9 patients and 8 of them (89 %) were responders.

Conclusion: RIF was common in breast cancer patients receiving post-operative RT and TJ-41 was effective for the RIF patients and improved their quality of life. However, these results may lack objectivity and the study was conducted with no placebo group. Improvement in objectivity of the assessment and a comparative study will be needed.

EP-1477

Radiotherapy-Hyperthermia: outcome/toxicity in the superficial recurrent/metastatic tumors

E. Garibaldi[1], A. Di Dia[2], E. Delmastro[1], G. Belli[1], M. Gatti[1], G. Cattari[1], A. Salatino[1], S. Squintu[1], M. Poli[2], A. Miranti[2], P. Gabriele[1]
[1]*Istituto di Candiolo- IRCCS, Department of Radiotherapy and Radiation Oncology, Candiolo, Italy*
[2]*Istituto di Candiolo-IRCCS, Medical Physics, Candiolo, Italy*

Purpose or Objective: Hyperthermia is a powerful radiosensitizer for treatment of superficial tumors. Several trials showed an advantage of combining radiotherapy with hyperthermia in terms of both local tumor control and overall survival. The purpose of this study is to evaluate both efficacy and toxicity of radiotherapy-hyperthermia (RT-HT) in the treatment of superficial recurrent and metastatic tumors in patients previously or not previously irradiated.

Material and Methods: In our Institution twenty-three patients (mean age 71,4 years; range: 51-88) with histologically confirmed superficial recurrent/metastatic tumors were enrolled: 11 breast carcinoma, 6 head&neck cancer, 2 malignant melanoma, 2 sarcomas, 1 uterine adenocarcinoma and 1 hepatocarcinoma. Patients underwent radiotherapy treatment using 3D-conformal radiotherapy (8/23) or Helical Tomotherapy (15/23). External beam radiotherapy was delivered in 6-27 fractions of 1.8-5 Gy for a total dose of 20-57.5 Gy (mean external dose: 41 Gy). Prescribed dose was established taken into account, of the previous radiation doses, in previously irradiated patients, Karnofsky performance status and patient compliance. Hyperthermia treatment was performed with an electromagnetic superficial applicator operating at the frequency of 434 MHz. HT session was delivered once/twice weekly during the period of external radiotherapy, 1-2 hours after radiotherapy, to a mean total of 5 treatments [range: 1-9 sessions]. Termocouples were used to evaluate temperature distribution map. Average, maximum and minimum temperature parameters were recorded during hyperthermia treatment. The treatment goal was to reach 40- 42°C in > 90% (T90) of measured points for a duration of 60 minutes. Acute and late toxicity was evaluated according to the CTCAE criteria. Local control was assessed after the end of the treatment on the basis of the RECIST Criteria.

Results: During hyperthermia treatment the median temperature reached was 40.5 °C [range: 39 – 42.9°C]. During the radiotherapy in association with hyperthermia 2 pts (10%) had G3 toxicity and one of these interrupted the treatment. One pt had acute cutaneous toxicity ≥ G3 at 1 month. No pts had toxicity G2 at 3 and 6 months. No toxicity was observed at 12 months. The mean follow-up was 10 months (range 3-22 months). Four pts (17%) had a complete response (CR), 11 pts (48%) had a partial response (PR),7 pts (30%) had a stable disease, (SD) and only 1 pt (4%) had progression disease (PD) and subsequently died. The Local control rate was 95%. Univariate analysis showed that Tmean,Tmax, Tmin,T90 parameters were not associated with local control rate.

Conclusion: Radio-hyperthermia can result in an effective approach, particularly in previously irradiated patients or in radio-resistant tumors. Our results show that Radio-Hyperthermia is an useful combined treatment with a good local control rate and a very high patient compliance.

EP-1478

Low Dose Radiation therapy of degenerative painful osteoarthritis

S. Payano[1], A. Montero Luis[1], O. Hernando Requejo[1], J. Valero Albarran[1], M. Lopez Gonzalez[1], R. Ciervide Jurio[1], E. Sanchez Saugar[1], X. Chen[1], C. Rubio Rodriguez[1]
[1]*Hospital Universitario Madrid Sanchinarro - Grupo Hospital de Madrid, Oncologia Radioterápica, Madrid, Spain*

Purpose or Objective: The purpose of this study is to evaluate the decrease in pain of patients treated with low-dose radiation therapy in osteoarthritis.

Material and Methods: From April 2015 to September 2015, 11 patients (10 female and 1 men) were treated with low dose radiotherapy for pain control. All patients were refractory to conventional therapy prior to irradiation.
13 joints (6 bursitis and 7 arthrosis): 4 trochanteritis, 5 knees, 1 left thumb rhizarthrosis, 2 metacarpophalangeal joint and 1 right epicondylitis were treated.
The median age was 69 years (range 46-89) with a median follow-up period of 3 months (range 0-6). Painful status was measured by visual analogue scale (VAS), with a median pre-treatment value of VAS= 7(range 4-9).
The radiotherapy dose of 6 Gy was delivered in 6 alternate days fractions of 1 Gy per fraction. In those patient with no pain relive post-treatment with VAS of or above 6 a second course of radiotherapy was proposed.
The second RT series started 8 weeks after the first RT series.

Results: The analysis was performed before the treatment and at the last follow-up. With a median VAS = 5 (range 0-8) 7 patients achieved pain relief, 3 patients underwent a second course of radiotherapy with identical dose, and 1 patient showed no change in pain. Daily requirements of analgesic were removed of reduced in 5 patients, subjective pain perception of response to irradiation evaluated at time of last visit regarding pre-treatment status was considered as “better” by 73% of patient. No patients presented acute or late complications attribute to radiation therapy.